

### REMARKS

The present application has been carefully reviewed in light of the final Office Action dated June 16, 2011. Claims 26 to 53 are pending, of which Claims 26, 46 and 47 are independent. Reconsideration and further examination are respectfully requested.

In the Office Action Claims 47 and 53 were rejected under 35 U.S.C. § 102(b) over U.S. Patent 6,498,355 (Harrah). Claims 26 to 28, 35, 38 to 41, 45, and 51 were rejected under 35 U.S.C. § 103(a) over Harrah in view of U.S. Patent 6,498,355 (Kanji); Claims 46 and 52 were rejected over Harrah in view of U.S. Patent 6,682,331 (Peh); Claims 29 to 34, 36, and 37 were rejected over Harrah, Kanji, and U.S. 2004/0065894 (Hashimoto); Claim 42 were rejected over Harrah, Kanji, and further in view of in view of U.S. Patent 5,512,131(Kumar; and Claims 43 and 44 were rejected over Harrah, Kanji, and Kumar, and further in view of U.S. Patent 6,682,331 (Peh). Reconsideration and withdrawal of the rejections are respectfully requested.

Applicants thank Examiner Tucker Wright and Supervisor Kiesha Bryant for the courtesies and thoughtful treatment accorded Applicants' representative, Christian Mannino, during the August 15, 2011 telephone interview. During the interview, Applicants' representative discussed proposed amendments to the independent claims. The Examiner and his Supervisor tentatively agreed that the proposed amendments to the claims would overcome the rejections over Harrah, but indicated that the claims as amended would require further search and consideration. Applicants have incorporated the discussed changes to the claims in this Amendment. It is believed that this response, in conjunction with the Interview Summary issued by the Examiner, represents a complete

written statement as to the substance of the interview, in accordance with M.P.E.P. § 713.04.

As amended Claim 26 is directed to a light-emitting diode arrangement. The light-emitting diode arrangement includes a light-emitting diode chip, a multi-layer board having a base of a thermally well-conducting material. The material includes a metal and the base is a core of the board and configured for heat dissipation. The arrangement also includes an electrically insulating and thermally conducting connection layer between an emission surface of the light-emitting diode chip and the board. Between the light-emitting diode chip and the base of the board there is arranged an intermediate carrier separate from the light-emitting diode chip and the base of the board. The intermediate carrier is electrically contacted with the light-emitting diode chip, and the intermediate carrier includes an aluminum nitride substrate. In addition, the electrically insulating and thermally conducting connection layer is between the intermediate carrier and the multi-layer board and the electrically insulating and thermally conducting connection layer is in direct contact with the multi-layer board.

Two features of Claim 26 include, the electrically insulating and thermally conducting connection layer is between the intermediate carrier and the multi-layer board and the electrically insulating and thermally conducting connection layer is in direct contact with the multi-layer board.

Harrah is not believed to disclose an electrically insulating and thermally conducting connection layer between the intermediate carrier and the multi-layer board and the electrically insulating and thermally conducting connection layer is in direct contact with the multi-layer board. As shown in Figure. 2 of Harrah, thermally conductive material 24 is in direct contact with the metal substrate 6. As discussed at col. 3, lines 17-

53, of Harrah, thermally conductive material 24 may be conventional reflowed solder deposited in via 12 by conventional means, diamond filled epoxy, silver filled epoxy, or metals conventionally plated in via 12. Without being bound by theory, Applicants submit that one of ordinary skill in the art would appreciate that the aforementioned listed examples of thermally conductive material 24 also share the property of being electrically conductive. Thus, the layer 24 is seen to be electrically conductive, and thus different from the claimed electrically insulating and thermally conducting connection layer of Claim 26 which is in direct contact with the multi-layer board.

Accordingly, Applicants submit that Claim 26 is patentable over Harrah and respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a).

Independent Claims 46 and 47 recite features similar to those discussed above with respect to Claim 26, and are believed to be patentable over Harrah for at least the same reasons as discussed above in connection with Claim 26.

Nothing has been found in the other art of record that, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against independent claims 26, 46, and 47. Therefore, those claims are respectfully submitted to be patentable over the art of record.

The other claims in this application depend from one or another of Claims 26, 46, and 47, and therefore are submitted to be patentable for at least the same reasons. Because each dependent claim also is deemed to define an additional aspect of the invention, however, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and an early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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